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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/720,121

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Kang Soo Seo

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EXAMINER

DANG, HUNG Q

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/720,121	Applicant(s) SEO ET AL.	
	Examiner HUNG Q. DANG	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 05/15/2008 have been fully considered.

At pages 10-11, regarding rejections under 35 U.S.C. § 101, Applicant argues that, "because the computer-readable medium recited in claim 11 includes a data stream having a section which prohibits reproduction path re-change after reproduction path change, claim 11 is clearly directed towards patentable, statutory subject matter." In response, the Examiner respectfully disagrees. The section of the data stream recited in the claim does not perform or, when executed by a computer, cause to perform the functionality of prohibition. Instead, a program run by the computer reads the data and uses the data as intended by the programmer. In other words, the functionality of prohibition above is only an intended use of the data. Thus, the data is nonfunctional descriptive material. Such nonfunctional descriptive material, in the absence of a functional interrelationship with a computer, does not constitute a statutory process, machine, manufacture or composition of matter and is thus non-statutory per se.

Regarding the newly added limitation of "wherein the data stream section is a section which prohibits reproduction path re-change after reproduction path change, based on a buffering condition, a new ground of rejections is applied.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Nonfunctional descriptive material that does not constitute a statutory process, machine, manufacture or composition of matter and should be rejected under 35 U.S.C. Sec. 101. Certain types of descriptive material, such as music, literature, art, photographs, and mere arrangements or compilations of facts or data, without any functional interrelationship is not a process, machine, manufacture or composition of matter. USPTO personnel should be prudent in applying the foregoing guidance. Nonfunctional descriptive material may be claimed in combination with other functional descriptive multi-media material on a computer-readable medium to provide the necessary functional and structural interrelationship to satisfy the requirements of 35 U.S.C. Sec. 101. The presence of the claimed nonfunctional descriptive material is not necessarily determinative of nonstatutory subject matter. For example, a computer that recognizes a particular grouping of musical notes read from memory and upon recognizing that particular sequence, causes another defined series of notes to be played, defines a functional interrelationship among that data and the computing processes performed when utilizing that data, and as such is statutory because it implements a statutory process.

Claims 11-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows.

Claims 11-16 recite a data stream which does not impart functionality to a computer or computing device, and is thus considered nonfunctional descriptive material. Such nonfunctional descriptive material, in the absence of a functional interrelationship with a computer, does not constitute a statutory process, machine, manufacture or composition of matter and is thus non-statutory per se.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 and 11-28 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamane et al. (US Patent 5,784,528) and Kikuchi et al. (US Patent 6,577,811).

Regarding claim 1, Yamane et al. disclose a method for recording a data stream having multiple reproduction paths on a recording medium (Fig. 21; column 29, lines 37-42), comprising: checking whether total bit rate of a data stream section pertaining to one path among multiple reproduction paths is lower than a minimum bit rate; assigning an additional bit rate to the data stream section such that the TBR of the data stream section is not lower than said minimum bit rate, if the TBR is lower than the minimum bit rate (column 27, lines 49-54; column 34, lines 50-55; column 35, lines 42-55; column 39, lines 23-67); and recording a multi-path data stream including the data stream section on a recording medium (Fig. 21; column 29, lines 37-42). Yamane et al. also disclose wherein a data stream section is a section which reproduction path re-change after reproduction path change, based on a buffering condition, causes problems of seamless reproduction not being achieved (column 37, lines 3-10; column 39, lines 47-65).

However, Yamane et al. do not explicitly disclose prohibiting the reproduction path re-change.

Kikuchi et al. disclose prohibiting reproduction path change (column 69, lines 38-42).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate prohibiting reproduction path change disclosed by Kikuchi et al. into the method disclosed by Yamane et al. to prohibit reproduction path

re-change after reproduction path change, based on a buffering condition in order to guarantee seamless reproduction of the video stream. The incorporated feature would enhance playback quality of the recording medium recorded by the method.

Regarding claim 2, Yamane et al. also disclose said minimum bit rate is determined to a value enough to prevent buffer underrun during changes in reproduction path (column 27, lines 49-54; column 34, lines 50-55; column 35, lines 42-55; column 39, lines 23-67).

Regarding claim 3, Yamane et al. also disclose said data stream section is a stream range referred by a plurality of entry points, each entry point pointing to an interval of said data stream section (column 26, lines 8-22; column 28, lines 44-50; column 39, lines 32-40).

Regarding claim 4, Yamane et al. also disclose assigning the additional bit rate to a stream interval pertaining to only one entry point (column 39, lines 55-67).

Regarding claim 5, Yamane et al. also disclose distributing the additional bit rate to a plurality of stream intervals within said data stream section (column 26, lines 8-22; column 28, lines 44-50; column 39, lines 32-40, 55-67).

Regarding claim 6, Yamane et al. also disclose said data stream section whose TBR is to be checked is overlapped with another adjacent data stream section in such a manner that at least one entry point is commonly owned by said two data stream sections (column 26, lines 8-22; column 28, lines 44-50; column 39, lines 32-40; column 38, lines 13-31; Fig. 31; Fig. 33).

Regarding claim 7, Yamane et al. also disclose a jump for path change during reproduction of the recorded multi-path data stream is allowed on every entry point (column 39, lines 5-40; Fig. 40).

Regarding claim 8, Yamane et al. also disclose said data stream section whose TBR is to be checked is not overlapped with another adjacent data stream section (Fig. 40; column 39, lines 32-40).

Regarding claim 9, Yamane et al. also disclose a jump for path change during reproduction of the recorded multi-path data stream is allowed on every data stream section not entry point (Fig. 35; Fig. 36).

Claim 11 is rejected for the same reason as discussed in claims 1 and 2 above.

Claim 12 is rejected for the same reason as discussed in claim 3 above.

Claim 13 is rejected for the same reason as discussed in claim 6 above.

Claim 14 is rejected for the same reason as discussed in claim 7 above.

Claim 15 is rejected for the same reason as discussed in claim 8 above.

Claim 16 is rejected for the same reason as discussed in claim 9 above.

Regarding claim 17, Yamane et al. disclose an apparatus for recording a data stream having multiple reproduction paths on a recording medium (Fig. 21; column 29, lines 37-42), comprising: a driver configured to drive an optical recording device to record data on the recording medium (Fig. 21; column 29, lines 37-42); and a controller configured to control the driver to record the multi-path data stream including an arbitrary data stream section on the recording medium, a total bit rate (TBR) of the data stream section of one path among multiple reproduction paths is not lower than a

minimum bit rate that is set to a value enough to prevent an abnormal condition during changes in reproduction path (column 27, lines 49-54; column 34, lines 50-55; column 35, lines 42-55; column 39, lines 23-67). Yamane et al. also disclose wherein a data stream section is a section which reproduction path re-change after reproduction path change, based on a buffering condition, causes problems of seamless reproduction not being achieved (column 37, lines 3-10; column 39, lines 47-65).

However, Yamane et al. do not explicitly disclose prohibiting the reproduction path re-change.

Kikuchi et al. disclose prohibiting reproduction path change (column 69, lines 38-42).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate prohibiting reproduction path change disclosed by Kikuchi et al. into the apparatus disclosed by Yamane et al. to prohibit reproduction path re-change after reproduction path change, based on a buffering condition in order to guarantee seamless reproduction of the video stream. The incorporated feature would enhance the playback quality of the recording medium recorded by the apparatus.

Claim 18 is rejected for the same reason as discussed in claim 3 above.

Claim 19 is rejected for the same reason as discussed in claim 6 above.

Claim 20 is rejected for the same reason as discussed in claim 7 above.

Claim 21 is rejected for the same reason as discussed in claim 8 above.

Claim 22 is rejected for the same reason as discussed in claim 9 above.

Claim 23 is rejected for the same reason as discussed in claim 17 above in further consideration of Yamane et al. also disclosing an apparatus for reproducing the data stream (Fig. 3), comprising: a driver configured to drive an optical reproducing device to reproduce the data recorded on the recording medium ("Reproducing media driving unit 2004" in Fig. 3); and a controller configured to control the driver to reproduce the multi-path data ("Reproducing controller 2002" in Fig. 3); wherein the controller is configured to perform a jump operation for path change (Fig. 33; Fig. 34; column 38, lines 45-67).

Claim 24 is rejected for the same reason as discussed in claim 3 above in consideration of Yamane et al. also disclosing the controller is configured to control the jump operation by referring to one of entry points (Fig. 34; Fig. 35; Fig. 36).

Claim 25 is rejected for the same reason as discussed in claim 6 above.

Claim 26 is rejected for the same reason as discussed in claim 7 above.

Claim 27 is rejected for the same reason as discussed in claim 8 above.

Claim 28 is rejected for the same reason as discussed in claim 9 above.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamane et al. (US Patent 5,784,528) and Kikuchi et al. (US Patent 6,577,811) as applied to claims 1-9 and 11-28 above, and further in view of Fujiwara et al. (US Patent 6,683,989).

Regarding claim 10, see the teachings of Yamane et al. as discussed in claim 1 above. However, Yamane et al. do not disclose said minimum bit rate is at least 24 Mbps.

Fujiwara et al. disclose a video stream with a bit rate of 24 Mbps (column 2 lines 2-5

One of ordinary skill in the art at the time of the invention was made would have been motivated the bit rate of 24 Mbps disclosed by Fujiwara et al. into the method disclosed by Yamane et al. for high-definition video applications.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q. DANG whose telephone number is (571)270-1116. The examiner can normally be reached on M-Th:7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hung Q Dang/
Examiner, Art Unit 2621

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2621